



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/837,151	04/18/2001	Paul E. Bender	QCPA655C1B1	7745
23696	7590	11/22/2005	EXAMINER	
QUALCOMM, INC 5775 MOREHOUSE DR. SAN DIEGO, CA 92121			NGUYEN, BRIAN D	
			ART UNIT	PAPER NUMBER
			2661	

DATE MAILED: 11/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/837,151

Applicant(s)

BENDER ET AL.

Examiner

Brian D. Nguyen

Art Unit

2661

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9-18 and 20-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 9-18 and 20-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 April 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claims 12-13 are objected to because of the following informalities:

Claim 12, line 5, it is suggested to delete the second "whereby said foreign agent" in line

5.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 9, 10, and 23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 9 recites the limitation "said at least one of..." in line 8. There is insufficient antecedent basis for this limitation in the claim.

Claim 10 recites the limitation "said data" in line 8. There is insufficient ntecedent basis for this limitation in the claim.

Claim 23 recites the limitation "said data" and "said packets" in line 4. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2661

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 9-18 and 20-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eng et al (5,958,018) in view of the admitted prior art (APA) (background art of the specification and figure 2).

Regarding claim 9, Eng discloses, “a wireless data communication system apparatus, comprising: a plurality of network access points (figure 2, elements 21); a plurality of control points, each of the plurality of control points being co-located with one of the plurality of network access points (figure 22, element 25 as read in col. 3, lines 59-60 where each AP has the control modules 25); wherein each of the control points is configured to control communications between a remote user and at least two of the plurality of network access points (col. 7, lines 60-col. 8, lines 1-28, specifically lines 14-19); wherein each of the plurality of control points is configured to transfer control over the at least one of the plurality of network access points to a different control point (col. 8, lines 43-49 whereby switching the cell to the appropriate node, the control point has effectively switched control to another control point).” Eng does not specifically disclose the control point controls the remote user’s transmit power. However, power control in wireless system is well known in the art. The APA, paragraph 1003, discloses the controlling of power transmitted by the user terminal. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to control the remote user’s transmit power as taught by the APA in the system of Eng in order to minimize the interference between mobile stations in the system.

Regarding claim 10, Eng discloses, "a wireless data communication system apparatus, comprising: a plurality of network access points (figure 2, elements 21); and a plurality of control points, each of the plurality of control points being co-located with one of the plurality of network access points (figure 22, element 25 as read in col. 3, lines 59-60 where each AP has the control modules 25); and a plurality of foreign agents, each of the plurality of foreign agents being co-located with one of the plurality of network access points (figures 5 and 22 where the table of figure 5 is contained within each routing module of each AP and thus acts as a co-located foreign agent for roaming mobiles), wherein each of the control points is configured to control communications between a remote user and at least two of the plurality of network access points (col. 7, lines 60-col. 8, lines 1-28, specifically lines 14-19)". Eng does not specifically disclose the control point controls the remote user's transmit power and decapsulating the data. However, power control in wireless system and encapsulating/decapsulating are well known in the art. The APA, paragraph 1003, discloses the controlling of power transmitted by the user terminal and paragraph 1007 discloses encapsulating/decapsulating. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to control the remote user's transmit power and decapsulating the data as taught by the APA in the system of Eng in order to minimize the interference between mobile stations in the system and to extract the data from the encapsulated packets when the packets are transmitted from one network to another.

Regarding claim 11, Eng discloses, "a wireless data communication system apparatus, comprising: a plurality of network access points (figure 2, elements 21), each of the plurality of network access points being configured to communicate with at least one remote user (figure 2,

Art Unit: 2661

elements m); and a plurality of control points, each of the plurality of control points being co-located with one of the plurality of network access points (figure 22, element 25 as read in col. 3, lines 59-60 where each AP has the control modules 25); wherein each of the control points is configured to control communications between a remote user and at least two of the plurality of network access points (co. 7, lines 60-coI. 8, lines 1-28, specifically lines 14-19)." and wherein each of the plurality of control points is configured to transfer control over the at least one of the plurality of network access points to a different control point (col. 8, lines 43-49 whereby switching the cell to the appropriate node, the control point has effectively switched control to another control point)". Eng does not specifically disclose the control point controls the remote user's transmit power and the system comprising a plurality of routers communicating with the access points. However, power control in wireless system and routers for routing data packets from one access point to another access point are well known in the art. The APA, paragraph 1003, discloses the controlling of power transmitted by the user terminal and figure 2 shows routers 102 and 202 connected to the access points 106, 108, 110, 204, and 206. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to control the remote user's transmit power and use the routers to route the data packets from one network to another as taught by the APA in the system of Eng in order to minimize the interference between mobile stations in the system and to route the data packets between the access points when the access points are not directly connected to one another.

Regarding claim 12, Eng discloses, "a method for data flow control in a distributed data communication system, wherein a foreign agent being co-located with a network access point (figures 5 and 22 where the table of figure 5 is contained within each routing module of each AP

Art Unit: 2661

and thus acts as a co-located foreign agent for roaming mobiles). Eng does not specifically disclose the system comprises a router to route data intended for a remote user and the foreign agent de-capsulate the data. However, a communication system with a router to route data and the foreign agent de-capsulates the data are well known in the art. The APA, paragraph 1007 discloses encapsulating/decapsulating the data and figure 2 discloses a network that includes routers to route data intended for a remote user. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use a router to route the data and decapsulate the data when the data are received as taught by the APA in the system of Eng in order to route the data to its destination and to recover the data encapsulated at the transmitting end.

Regarding claim 13, Eng does not specifically disclose a home agent associated with the router and the home agent encapsulate the data destined to a current care-of-address of the remote user. However, these features are well known in the art. The APA of figure 2 discloses home agent 224 associated with router 102 and the home agent encapsulates the data (paragraph 1007). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to associate a home agent with a router and encapsulate the data as taught by the APA in the system of Eng in order to keep track of mobile stations within the network and to transfer data packets from one network to another.

Regarding claim 14, Eng discloses, "a method for data flow control in a distributed data communication system, comprising: receiving at two or more network access points data intended for a remote user (col. 8, lines 43-49 where the data is first received at a first AP, determined if the mobile is serviced by that AP, and if it's not, it is sent to the remote servicing

AP); and transmitting from the two or more network access points the received data to the remote user under control of a control point (col. 8, lines 43-49 where each AP transmits the data to its destination, the first AP to the remote servicing AP and the remote servicing AP to the final destination), the control point being co-located with a one of the network access points (figures 2 and 22 where each AP has a control point 25 co-located with it).". Eng does not specifically disclose the control point controls the remote user's transmit power. However, power control in wireless system is well known in the art. The APA, paragraph 1003, discloses the controlling of power transmitted by the user terminal. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to control the remote user's transmit power as taught by the APA in the system of Eng in order to minimize the interference between mobile stations in the system.

Regarding claim 15, Eng further discloses, "transmitting from the two or more network access points the received data to the remote user under a control of the control point (col. 8, lines 43-49 where each AP transmits the data to its destination, the first AP to the remote servicing AP and the remote servicing AP to the final destination), the control point being co-located with one of the two or more network access points in communication with the remote user (figures 2 and 22 where each AP has a control point 25 co-located with it)."

Regarding claim 18, Eng discloses, "a method for data flow control in a distributed data communication system, comprising: receiving at a network access point data intended for a remote user (figure 15, "receipt of MAC frame"); and transmitting from the network access point the received data to the remote user under a control of a control point (col. 8, lines 43-49 where the first receiving AP transmits the data to the remote servicing AP of the mobile), the control

point being co-located with a network access point different from the transmitting network access point (figures 2 and 22 where each AP has a control point 25 co-located with it, thus the remote servicing AP has the control point 25 for the remote mobile), whereby the control point controlling the transmitting network access point is not co-located with the transmitting network access point (figures 2 and 22 where since each AP has its own control point co-located with it, and the remote servicing AP controls the remote mobile, the control point is not co-located with the transmitting network access point, it is co-located with the remote servicing AP).". Eng does not specifically disclose the control point controls the remote user's transmit power. However, power control in wireless system is well known in the art. The APA, paragraph 1003, discloses the controlling of power transmitted by the user terminal. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to control the remote user's transmit power as taught by the APA in the system of Eng in order to minimize the interference between mobile stations in the system.

Regarding claims 16 and 20, Eng further discloses, "transferring control of the network access point from the control point to a second control point (col. 8, lines 43-49 whereby switching the cell to the appropriate node, the control point has effectively switched control to the remote servicing AP's control point)."

Regarding claims 17 and 21, Eng further discloses, "wherein the second control point is co-located with the transmitting network access point (figures 2 and 22 where since each AP has a corresponding control point the transmitting AP has a co-located control point)."

Regarding claim 22, Eng discloses, "a wireless data communication system apparatus, comprising: a plurality of network access points (figure 2, elements 21); and a plurality of

Art Unit: 2661

control points, each of the plurality of control points being co-located with one of the plurality of network access points (figure 22, element 25 as read in col. 3, lines 59-60 where each AP has the control modules 25); wherein each of the control points is configured to control communications between a remote user and at least two of the plurality of network access points (col. 7, lines 60-col. 8, lines 1-28, specifically lines 14-19). Eng does not specifically disclose the control point controls the remote user's transmit power and the system comprising a plurality of routers communicating with the access points. However, power control in wireless system and routers for routing data packets from one access point to another access point are well known in the art. The APA, paragraph 1003, discloses the controlling of power transmitted by the user terminal and figure 2 shows routers 102 and 202 connected to the access points 106, 108, 110, 204, and 206. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to control the remote user's transmit power and use the routers to route the data packets from one network to another as taught by the APA in the system of Eng in order to minimize the interference between mobile stations in the system and to route the data packets between the access points when the access points are not directly connected to one another.

Regarding claim 23, Eng does not specifically disclose a home agent associated with the router and the home agent encapsulate the data destined to a current care-of-address of the remote user. However, these features are well known in the art. The APA of figure 2 discloses home agent 224 associated with router 102 and the home agent encapsulates the data (paragraph 1007). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to associate a home agent with a router and encapsulate the data as taught by

the APA in the system of Eng in order to keep track of mobile stations within the network and to transfer data packets from one network to another.

Response to Arguments

6. Applicant's arguments with respect to claims 9-18 and 20-23 have been considered but are moot in view of the new ground(s) of rejection.

The applicant argued that element 25 is not a control point because it does not include many functions used to manage wireless links such as control of the remote user's transmit power, encapsulating/decapsulating packets. However, these features are well known and are admitted as well known in the application background of the invention.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ahn et al (6,717,916) discloses a method and a system in which the transmit power of the mobile station is controlled.

Forslow (6,937,566) discloses a method and a system including routers and the features of encapsulating and decapsulating data packets.

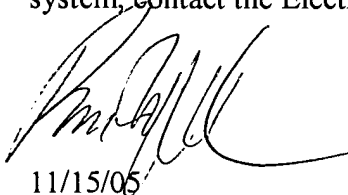
Lee et al (6,535,493) discloses a method and a system in which access point serves as a home agent and a foreign agent.

Art Unit: 2661

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian D. Nguyen whose telephone number is (571) 272-3084. The examiner can normally be reached on 7:30-6:00 Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on (571) 272-3126. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



11/15/05

BRIAN NGUYEN
PRIMARY EXAMINER